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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/920,788	08/01/2001	Gordon James Yorke	OR02-13501	5192

51067   7590   08/09/2007
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EXAMINER
BULLOCK JR, LEWIS ALEXANDER

ART UNIT	PAPER NUMBER
2195	

MAIL DATE	DELIVERY MODE
08/09/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)	
Office Action Summary	09/920,788	YORKE ET AL.	
	Examiner	**Art Unit**	
	Lewis A. Bullock, Jr.	2195	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 May 2007*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *35-55* is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *35-55* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☐ All　b)☐ Some *　c)☐ None of:

　　　　1.☐ Certified copies of the priority documents have been received.

　　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
　　Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
　　Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2.   Claims 35-39, 41-49 and 51-55 are rejected under 35 U.S.C. 102(b) as being an

anticipated by JONES (U.S. Patent 5,694,984).

As to claims 35-39, 41-49 and 51-55, JONES teaches a method for providing

object change information from a first system (initial site) to a second system (other site)

for synchronizing the second system (other site) with the first system (initial site), the

second system (other site) having an object cache for storing objects (storage of objects

/ object database), the method comprising the steps of: changing an object (copy of an

object) in the first system (initial site); determining object change information

representing a change (change notice) made to the object (copy of an object) in the first

system (initial site); and distributing the object change information (change notice) from

the first system (initial site) to the second system (other site) to cause the second

system (other site) to merge the object change information (change notice) into the

object cache (storage of objects / object database) so as to synchronize the second

system (other site) with the first system (initial site) wherein the objects are included in a

database; and wherein one or more of the systems can perform database operations on

a given object (abstract; col. 2, line 1-61; col. 4, line 7-22; col. 10, lines 20-53; col. 14,

lines 22-28; col. 14, lines 45 – col. 15, line 45; col. 25, line 59 – col. 26, line 37).

JONES further teaches establishing a communication link based on a publish/subscribe

protocol (sites subscribe interest in changes and publishes change notices to

subscribed sites) between the first system (initial site) and the second system (other

site) wherein the distributing step distributes the object change information (change

notice) from the first system (initial site) to the second system (other site) through the

communication link (abstract; col. 2, line 1-61; col. 4, line 7-22; col. 10, lines 20-53; col.

14, lines 22-28; col. 14, lines 45 – col. 15, line 45; col. 25, line 59 – col. 26, line 37).

JONES teaches registering the second system (other site) in the first system (initial site)

prior to the distributing step (site subscribes for changes to the object) wherein the

distributing step distributes the object change information (change notice) to the

registered second system (other site) (abstract; col. 2, line 1-61; col. 4, line 7-22; col.

10, lines 20-53; col. 14, lines 22-28; col. 14, lines 45 – col. 15, line 45; col. 25, line 59 –

col. 26, line 37). JONES teaches sending the object change information (change

notice) to a database (object database of receiving site) for updating the object (object)

in the database with the object change information (change notice) (abstract; col. 2, line

1-61; col. 4, line 7-22; col. 10, lines 20-53; col. 14, lines 22-28; col. 14, lines 45 – col.

15, line 45; col. 25, line 59 – col. 26, line 37). JONES teaches the first system (initial

site) includes an object cache (object database / storage for objects) for storing one or

more objects (copy of objects), and the step of merging the object change information

(change notice) into the object cache (object database / storage for objects) of the first

system (initial site) (via update objects / add objects to site / receiving a change notice

regarding an object it registered for) (abstract; col. 2, line 1-61; col. 4, line 7-22; col. 10,

lines 20-53; col. 14, lines 22-28; col. 14, lines 45 – col. 15, line 45; col. 25, line 59 – col.

26, line 37). JONES teaches the determining step determines the object change

information (change notice) as a minimal set of information representing the change

made to the object (value to be change / playback changes) (col. 10, lines 20-37).

JONES teaches the determining step determines the object change information (change

notice) to include a primary key (source) identifying the object and a change in the

attribute of the object (variable to be updated) (col. 20, line 64 – col. 21, line 16; col. 10,

lines 20-37). JONES teaches the object (object) includes an attribute (variable) for

containing object data or a value of a relationship with one or more other object (copies

of the object), and the determining step determines the object change information

(change notice) to include a change made in the attribute of the object (variable to be

updated) (col. 20, line 64 – col. 21, line 16; col. 10, lines 20-37). JONES teaches the

first system (initial site) includes a cache for storing one or more objects (object

database / storage for objects), comprising the steps of: receiving object change

information (change notice) distributed from the second system (other site) and

containing information of changes (information in change notice) made to one or more

objects (objects) in the second system (other site); and merging the object change

information (information in change notice) received from the second system (other site)

into the objects (objects) in the cache of the first system (initial site) to synchronize the

first system with the second system (synchronization of sites) (abstract; col. 2, line 1-61;

col. 4, line 7-22; col. 10, lines 20-53; col. 14, lines 22-28; col. 14, lines 45 – col. 15, line

45; col. 25, line 59 – col. 26, line 37).

3.   Claims 35, 36, 38, 39, 41-49 and 51-55 are rejected under 35 U.S.C. 102(b) as

being anticipated by ROTHROCK (U.S. Patent 5,408,470).

        As to claim 35, 36, 38, 39, 41-49 and 51-55, ROTHROCK teaches a method for

providing object change information (blocked object changes) from a first system

(participant system) to a second system (another participant system) for synchronizing

(deferred synchronizing) the second system with the first system, the second system

having an object cache for storing objects (local memory / associated media device

storing objects) (col. 4, lines 59-65), the method comprising the steps of: changing an

object in the first system (via participant / arbitrator adding, modifying, or deleting an

object); determining an object change set (blocked change information containing index

of the changed object) which changes made to the object in the first system, wherein

the object change set includes: a primary key value that identifies the object (object

meeting structure); and a set of attribute changes which contain the attribute names and

the new attribute values of attributes that were changed in the object (objects of the

meeting structure to add or change / annotation objects) (col. 8, line 47 – col. 9, line 22;

col. 10, lines 1-25); and sending the object change set directly (blocked change

information containing index of the changed object) from the first system (requesting

participant) to the second system (participant / arbitrator) to cause the second system to

apply the object change set (synchronize the object change) to the corresponding object

in the second system's cache so as to synchronize the second system with the first

system (col. 9, line 60 – col. 12, line 46). ROTHROCK also teaches that object

managers of the participants keeps track of participants such as when a participant joins

the meeting that after the joining their objects are synchronized (col. 7, lines 47-54).

Therefore, it is inherent within the teachings of ROTHROCK that a system (participant)

registers to the first system (initial participant) prior to the distribution of the change

information from the first system to the second system since the first system

synchronizes the local changes to the remote participants after they are approved by

the arbitrator and therefore must know the other registered participants in the meeting.

ROTHROCK teaches a communication link between the first system and the second

system (communication medium between participants) (col. 6, lines 14-30; col. 4, lines

42-48) and that object managers of the participants keeps track of participants such as

when a participant joins the meeting that after the joining their objects are synchronized

(col. 7, lines 47-54). It is inherent within the teachings of ROTHROCK that when a

participant joins a meeting a communication link is established between the joining

participant and the meeting participant such that changing of an object in the meeting is

propagated to the other participants including the joining participant. ROTHROCK

teaches sending the object change information to a database (arbitrator's copy of

objects) for updating the object in the database with the object change information (via

sending the change regarding the object to another participant for synchronization with

that copy of the object) (col. 9, line 60 – col. 12, line 46). ROTHROCK teaches the first

system (participant) includes an object cache for storing one or more objects (memory

storing local copy of object), and the method further comprises a step of merging the

object change information into the object cache of the first system (via sending the

change regarding the object to another participant for synchronization with that copy of

the object) (col. 9, line 60 – col. 12, line 46). ROTHROCK teaches the first system

(participant) includes a cache for storing one or more objects (memory storing local

copy of object), the method further comprising the steps of: receiving object change

information (blocked change information containing index of the changed object)

distributed from the second system (participant) and containing information of changes

made to one or more objects in the second system (changes made by the participant);

and merging the object change information (blocked change information containing

index of the changed object) received from the second system (participant) into the

objects in the cache of the first system to synchronize the first system with the second

system (via deferred synchronization between any participants) (col. 9, line 60 – col. 12,

line 46).

4.   Claims 35, 36, 38, 39, 41-49 and 51-55 are rejected under 35 U.S.C. 102(e) as

being anticipated by ZHU (U.S. Patent 6,792,436).

        As to claims 35, 36, 38, 39, 41-49 and 51-55, ZHU teaches a method for

providing object change information (change request / transaction information) from a

first system (sender) to a second system (receiver) for synchronizing (synchronizing)

the second system with the first system, the second system having an object cache for

storing objects (local cache of objects), the method comprising the steps of: changing

an object in the first system (via sender creating, updating, or deleting an object);

determining an object change set (change request / transactional information) which

represents changes made to the object in the first system wherein the object change set

includes: a primary key value that identifies the object; and a set of attribute changes

which contain the attribute names and the new attribute values of attributes that were

changed in the object (via the object change set includes the object and its associated

changes to the attributes with the non changes to the attributes); and sending the object

change set (change request / transaction information) directly from the first system

(sender) to the second system (receiver) to cause the second system to apply the

object change set (synchronize the object) to the corresponding object in the second

system's cache so as to synchronize the second system with the first system (col. 6,

line 35 – col. 7, line 45). ZHU also teaches that the sender system synchronizes a

change with the receiver system once the database has approved of the change (col. 6,

line 35 – col. 7, line 45). Therefore, it is inherent within the teachings of ZHU that the

receiving system must register to sending system prior to the distribution of the change

information from the sending system to the receiving system since the local changes to

the sending system are sent after they are approved by the database and therefore the

sending system must know the other registered system in order to send it the changes.

ZHU also teaches both systems have caches, the sending of the change information

(change request / transaction information) to a database (central database) wherein the

database determines if an error message (update / delete / create has failed) should be

sent, the merging of change information with the object caches (fig. 3, step 128); the

sending of minimal information within the change information (col. 6, lines 12-28), a

primary key (primary key / OCAs) sent with the change information, and a change in

attribute of an object (col. 6, line 35 – col. 7, line 45; fig. 3).

Claim Rejections - 35 USC § 103

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

6.   Claims 40 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Jones (U.S. Patent 5,694,984).

As to claims 40 and 50 JONES teaches receiving an error message from the

database when the updating of the object in the database fails (via preflight mode) and

deciding whether to make the change (col. 14, lines 29-35). It would be obvious to one

skilled in the art at the time of the invention that if an error message is received

regarding a change to be made, that one would decide not to perform that change.

See for instance Zhu.

7.   Claim 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over

ROTHROCK (U.S. Patent 5,408,470).

As to claim 37, ROTHROCK teaches communications medium is any type of

communications medium using any one of the various networking standards (col. 6,

lines 14-25). Official Notice is taken in that publish/subscribe protocol is a well known

communication standard and therefore would be obvious in view of ROTHROCK in

order to communicate change information.

8.   Claim 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over ZHU

(U.S. Patent 6,792,436).

As to claim 37, ZHU teaches the invention is implemented in a wide range of

digital computing network configurations (col. 4, lines 52-65; col. 10, lines 6-38). Official

Notice is taken in that publish/subscribe protocol is a well-known network

communication configuration and therefore would be obvious in view of ZHU in order to

communicate object change information.

9.   Claims 40 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable

over ROTHROCK (U.S. Patent 6,792,436) in view of ZHU (U.S. Patent 6,792,436).

As to claims 40 and 50, ROTHROCK teaches the synchronization of objects

within agents (col. 6, line 60 – col. 7, line 7).   However, ROTHROCK does not teach

receiving an error message from the database when the updating fails.

ZHU teaches synchronization of object systems comprising the steps of receiving

an error message from the database when the updating of the object in the database

fails (col. 6, lines 65-67; col. 7, lines 8-9; col. 7, lines 12-14). It would be obvious to one

skilled in the art at the time of the invention based on the combination that since the

agents of ROTHROCK must synchronize with the arbitrator's copy of objects, i.e. the

central database of ZHU, that if the database fails to make the change then the change

information must be discarded and not distributed to the other agents. Therefore, it

would be obvious to one skilled in the art to combine the teachings of ROTHROCK with

the teachings of ZHU in order to facilitate the synchronization of individual caches

without having to constantly query the central database (col. 3, lines 31-34).

Response to Arguments

1.   Applicant's arguments filed May 30, 2007 have been fully considered but they are

not persuasive. Applicant argues that the cited references Jones (U.S. Patent

5,684,984), Rothrock (U.S. Patent 5,408,470), Zhu (U.S. Patent 6,792,436), and

Erickson (U.S. Patent 6,892,210) do not teach the cited updated original claims

because they do not allow the clients to perform database operations on any objects

within the database as supported by Fig. 1, page 4, lines 13-24; pg. 6, lines 3-7 and

page 6, lines 28-30. The examiner disagrees. Following all the cited recitations

provided by Applicant, the specification details that various clients update their in-cache

copy of the set of objects stored in the database and once those changes are

performed, commit changes are forward to the database for performing updating on its objects. Therefore, the specification details accessing the database for a copy of all the objects, performing local updates to the objects, and making those updates global by applying them to the database.

Jones teaches synchronizing different copies of an item on machines that are not continuously linked at which each copy may be changed independently (col. 2, lines 6-9). The electronic publishing tool uses an object-oriented extensible representation of content and provides an infrastructure for the storage of objects, synchronization of changes to objects between an information provider and an online service, and interfaces to foreign systems such as another online service (col. 2, lines 40-48). Jones explicitly states that periodically information providers, after making a set of changes they then wish to effect, will publish the changes they have made. A set of files are generated which are sent to the central service, who when changes are found incorporates those changes into its own database wherein the process of updating the central service's version to reflect changes made by an IP is referred to as synchronizing (col. 3, line 57 – col. 4, line 6). Applicant refers to a statement in Jones that details that only one site is able to modify any given object. However as used in invention of Jones, the copy of an object is the given object that can only be modified by a site, hence its in-cache copy. Jones states that each client has an ObjectMan that is responsible for receiving broadcast change/ synchronization notices from objects and relaying those notices to objects interested in those objects, such as if the object receiving the notice is a remote copy of the object sending the notice, to "play back" the

changes made to the object sending the notice so as to synchronize with that object

(col. 10, lines 20-37). With replicas of the same object located at different site, different

changes may be made at different times to the same object, for example, an IP may

change the title of an time, causing a broadcast change/synchronization notice to be

sent to the central service wherein the central service may have changed the title some

time earlier (col. 10, lines 38-53). The central service is the database of the original

version of the set of objects (see claims wherein the sites database portion is a replica

of the central services database portion). By locally modifying the database and

sending the changes to the central services database for synchronization, each client

(IP site) has access to the database (central services database). Therefore, the cited

art teaches the limitation as previously used.

Regarding the teachings of Rothrock, Applicant states that the invention is

performed without an agent making a change to an object first requesting an object

index from an arbitrator in order to synchronize itself. Instead, these changes are

received whenever other clients make changes to the objects. The examiner disagrees.

M.P.E.P. 2111 details that claims are given their broadest reasonable interpretation

consistent with the specification without reading limitations from the specification or

otherwise into the claims. There is no limitation precluding the receiving of an index

before broadcasting the changes to the database. One can conceivable interpret the

obtaining of the index as a step that occurs prior to the distributing. Rothrock is similar

in functionality to Jones wherein a copy of the database is locally stored (via

agents/participants having local copy of the shared data), the local copy is manipulated

(participants makes modifications), and changes that were locally made are sent to a

central database (i.e. another participants copy of the shared data / arbitrators copy of

the shared data) and therefore the same rational applies in showing that Rothrock

teaches the limitations of the claims.

Regarding the teachings of Zhu, Applicant states that the system synchronizes

objects by sending a full object state whereas the invention determines and distributes

object change information. Applicant refers to page 7, line 31 to page 8, line 4, page 8,

lines 14-15 and page 12, lines 7-10 of the specification in support of this argument. The

examiner has interpreted this to mean that object change information is supported or

defined by these sections. A review of the cited sections detail the object change sets

(1) **may include** a minimal set of information regarding changes to the objects (col. 8,

lines 9-10); (2) **includes** one or more changes to the attribute and/or data of the

changed object (pg. 8, lines 16-17) and (3) **preferably does not include** any

information as to attributes or data that did not change (pg. 8, lines 25-26). May or

preferably are not definitive in that the object change set actually functions as defined.

These are alternative embodiments to what object change set actually is. The only

requirement to an object change set is that it includes one or more changes to the

attributed and/or data of the changed object. Therefore, Zhu's full object state would

include one or more changes to the attribute and/or data of a changed object. Reading

in the interpretation that the object change state to a minimal set of information or does

not include any information as to attributes or data that did not change is improper

under M.P.E.P. 2111, since claims must be considered based on the broadest

reasonable interpretation. In addition, there is no clear definitive understanding of how much information is considered the minimal set of information regarding changes to the objects. Conceivable the whole state of the object is the minimal set of information, in particular in situations wherein an object is created on one database and must be created in the other.

Therefore, since the teachings of the above patents teach the cited limitations of the claims as outlined in previous actions and reiterated herein, the claims are rejected.

Conclusion

2.   Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the
examiner should be directed to Lewis A. Bullock, Jr. whose telephone number is (571)
272-3759. The examiner can normally be reached on Monday-Friday, 8:30 a.m. - 5:00
p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's
supervisor, Meng An can be reached on (571) 272-3756. The fax phone number for the
organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the
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USPTO Customer Service Representative or access to the automated information
system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

August 6, 2007

LEWIS A. BULLOCK, JR.
PRIMARY EXAMINER